

**1. PRODUCT AND COMPANY IDENTIFICATION:**

<b>PRODUCT CODE</b>	H0187
<b>PRODUCT NAME</b>	2,3-PENTANEDIONE (ACETYL PROPIONYL)
<b>SUPPLIER</b>	Shanghai M & U International Trade Co., Ltd. Rm 1717, No 598 North NuJiang Road 200333 Shanghai, China +86-21-32515501 32515502 sales@mu-intel.com

**FOR EMERGENCIES CALL CHEMTREC: 800-424-9300 (24-HOURS)**

**2. HAZARD IDENTIFICATION:**

**Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

**Classific** H0187 - 2,3-PENTANEDIONE (ACETYL PROPIONYL)

ation according to Directive 67/548/EEC or Directive 1999/45/EC



Harmful

Harmful: danger of serious damage to health by prolonged exposure through inhalation.



Irritant

Risk of serious damage to eyes. May cause sensitisation by skin contact.



Highly flammable

Highly flammable.

### Label elements

#### GHS label elements

The substance is classified and labeled according to the Globally Harmonized System (GHS).

#### Hazard pictograms



GHS02 GHS05 GHS07 GHS08

#### Signal word

Danger

#### Hazard-determining components of labeling:

pentane-2,3-dione

#### Hazard statements

Highly flammable liquid and vapor.

Causes serious eye damage.

May cause an allergic skin reaction.

May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Do not breathe dust/fume/gas/mist/vapours/spray.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Additional information:**

Exposure may cause a serious lung disease (called bronchiolitis obliterans). The damage to the lungs can be permanent, severe and can lead to death. Individuals exposed to Acetyl Propionyl who have persistent cough and/or shortness of breath should see a physician immediately and evaluated for lung disease. Employers should provide exposed employees with lung function tests and respiratory health questionnaires before beginning to work with Acetyl Propionyl and at least every six months thereafter. A licensed physician should review the tests to look for decreases in lung function over time.

**Classification system:**

**NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 3  
Reactivity = 0

**HMIS-ratings (scale 0 - 4)**



Health = \*2  
Fire = 3  
Reactivity = 0

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:**

Not applicable.

**vPvB:**

Not applicable.

**3. COMPOSITION AND INFORMATION ON INGREDIENTS:**

**Chemical characterization: Substances**

**CAS No. Description**

600-14-6 pentane-2,3-dione

**Identification number(s)**

**EC number:**

209-984-8

**4. FIRST-AID GUIDE:**

**Description of first aid measures**

**General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation:**

Supply fresh air and be sure to call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

**After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing:**

If symptoms persist consult doctor.

**Most important symptoms and effects, both acute and delayed**

No further relevant information available.

**Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**5. FIRE-FIGHTING GUIDE:**

**Extinguishing media**

**Suitable extinguishing agents:**

CO<sub>2</sub> or extinguishing powder. Fight larger fires with alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents:**

Water with full jet

**Special hazards arising from the substance or mixture**

No further relevant information available.

**Advice for firefighters**

**Protective equipment:**

No special measures required.

**Additional information**

Cool endangered receptacles with water spray.

Collect contaminated firefighting water separately. It must not enter the sewage system.

**6. ACCIDENTAL RELEASE GUIDE:**

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

**Environmental precautions:**

Do not allow to enter sewers/ surface or ground water.

**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7. HANDLING AND STORAGE:****Precautions for safe handling**

No special precautions are necessary if used correctly.

**Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

**Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:**

Store in a cool location.

**Information about storage in one common storage facility:**

Not required.

**Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well-sealed receptacles.

**Specific end use(s)**

No further relevant information available.

**8. EXPOSURE AND PERSONAL PROTECTION:****Additional information about design of technical systems:**

No further data; see item 7.

**Control parameters****Components with limit values that require monitoring at the workplace:**

Not required.

**Additional information:**

The lists that were valid during the creation were used as a basis.

## Exposure controls

### Personal protective equipment:

#### General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.

### Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

### Protection of hands:



#### Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material should be based on consideration of the penetration times, rates of diffusion and the degradation

#### Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

#### Penetration time of glove material

The exact break through time has to be determined by the manufacturer of the protective gloves and has to be observed.

### Eye protection:



#### Tightly sealed goggles

9.

## 10. PHYSICAL AND CHEMICAL PROPERTIES:

### Information on basic physical and chemical properties

#### General Information

##### Appearance:

Form:

Liquid

Color:

Yellow

<b>Odor:</b>	Sweetish
<b>Odour threshold:</b>	Not determined.
<b>pH-value:</b>	Not determined.
<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	-52 °C (-62 °F)
<b>Boiling point/Boiling range:</b>	110 °C (230 °F)
<b>Flash point:</b>	18 °C (64 °F)
<b>Flammability (solid, gaseous):</b>	Not applicable.
<b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
<b>Auto igniting:</b>	Not determined.
<b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air vapor mixtures are possible.
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Vapor pressure:</b>	Not determined.
<b>Density at 20 °C (68 °F):</b>	0.96 g/cm <sup>3</sup> (8.011 lbs/gal)
<b>Relative density</b>	Not determined.
<b>Vapour density</b>	Not determined.
<b>Evaporation rate</b>	Not determined.
<b>Solubility in / Miscibility with</b>	
<b>Water at 20 °C (68 °F):</b>	60 g/l
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
<b>Organic solvents:</b>	0.0 %
<b>Other information</b>	No further relevant information available.

## 11. STABILITY AND REACTIVITY:

### Reactivity

#### Chemical stability

#### Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

#### Possibility of hazardous reactions

No dangerous reactions known.

#### Conditions to avoid

No further relevant information available.

#### Incompatible materials:

No further relevant information available.

**Hazardous decomposition products:**

No dangerous decomposition products known.

**12. TOXICOLOGICAL INFORMATION:**

**Information on toxicological effects**

**Acute toxicity:**

<b>LD/LC50 values that are relevant for classification:</b>		
600-14-6 pentane-2,3-dione		
Oral	LD50	3000 mg/kg (rat)

**Primary irritant effect:**

**On the skin:**

No irritant effect.

**On the eye:**

Strong irritant with the danger of severe eye injury.

**Sensitization:**

Sensitization possible through skin contact.

**Additional toxicological information:**

**Carcinogenic categories**

**IARC (International Agency for Research on Cancer)**

Substance is not listed.

**NTP (National Toxicology Program)**

Substance is not listed.

**OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

**13. ECOLOGICAL INFORMATION:**

**Toxicity**

**Aquatic toxicity:**

No further relevant information available.

**Persistence and degradability**

No further relevant information available.

**Bioaccumulative potential**

No further relevant information available.

**Mobility in soil**

No further relevant information available.



**Additional ecological information:****General notes:**

Water hazard class 1 (Assessment by list): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

**Results of PBT and vPvB assessment****PBT:**

Not applicable.

**vPvB:**

Not applicable.

**Other adverse effects**

No further relevant information available.



**14. DISPOSAL RECOMMENDATIONS:****Waste treatment methods****Recommendation:**


Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

**Un cleaned packaging:****Recommendation:**

Disposal must be made according to official regulations.

**15. TRANSPORTATION INFORMATION:**

UN-Number DOT, ADR, IMDG, IATA	UN1224
UN proper shipping name DOT ADR IMDG, IATA	Ketones, liquid, n.o.s. (pentane-2,3-dione) 1224 Ketones, liquid, n.o.s. (pentane-2,3-dione) KETONES, LIQUID, N.O.S. (pentane-2,3-dione)
Transport hazard class(es) DOT  Class Label	3 Flammable liquids 3
ADR  Class	3 (F1) Flammable liquids 3

Label	
IMDG, IATA  Class Label	3 Flammable liquids 3
Packing group DOT, ADR, IMDG, IATA	II
Environmental hazards: Marine pollutant:	No
Special precautions for user Danger code (Kemler): EMS Number:	Warning: Flammable liquids 33 F-E,S-D
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
ADR Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
IMDG Limited quantities (LQ) Excepted quantities (EQ)	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
UN "Model Regulation":	UN1224, Ketones, liquid, n.o.s. (pentane-2,3-dione), 3, II

## 16. REGULATORY INFORMATION:

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Sara**

**Section 355 (extremely hazardous substances):**

Substance is not listed.

**Section 313 (Specific toxic chemical listings):**

Substance is not listed.

**TSCA (Toxic Substances Control Act):**

Substance is listed.

**Proposition 65**

**Chemicals known to cause cancer:**

Substance is not listed.

**Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

**Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

**Chemicals known to cause developmental toxicity:**

Substance is not listed.

**Carcinogenic categories****EPA (Environmental Protection Agency)**

Substance is not listed.

**TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

**NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

**GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms**

GHS02

GHS05

GHS07

GHS08

**Signal word**

Danger

Hazard-determining components of labeling:

pentane-2,3-dione

**Hazard statements**

Highly flammable liquid and vapor.

Causes serious eye damage.

May cause an allergic skin reaction.

May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

Do not breathe dust/fume/gas/mist/vapours/spray.

F ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/ shower.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

**17. OTHER INFORMATION:**

The information in this SDS was obtained from current and reliable sources. However, the data is provided without any warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions for use, handling, storage and disposal of this product are beyond M&U's control, it is the responsibility of the user both to determine safe conditions for use of this product and to assume liability for loss, damage, or expense arising out of the products improper use. No warranty expressed or implied regarding the product described herein will be created by or inferred from any statement or omission in the SDS. Various federal, state, or provincial agencies may have specific regulations concerning the transportation, handling, storage, use, or disposal of this product which may not be reflected in the SDS. The user should review these regulations to ensure full compliance.

**Prepared By:** M&U International LLC

**REVISED:** 02/17/2015